

**Notice of Allowability**

Application No.

09/475,104

Applicant(s)

VODRAHALLI ET AL.

Examiner

James M. Mitchell

Art Unit

2813

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/23/2004.
2. ☒ The allowed claim(s) is/are 5-13 and 15-23.
3. ☒ The drawings filed on 30 December 1999 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 06/03
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
- ☒ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other \_\_\_\_\_

*Carl Whithead Jr.*  
CARL WHITEHEAD, JR.  
SUPERVISOR OF PATENT EXAMINERS  
TECHNOLOGY CENTER 2800

### **DETAILED ACTION**

This office action is in response to the amendment filed November 23, 2004.

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with William Schaal on January 14, 2005 to overcome the newly cited art.

The application has been amended as follows:

#### **CLAIMS**

In claim 21, delete lines 6 and 7.

In claim 5, line 4, after " epoxy" insert- - after applying said epoxy to the integrated circuit".

In claim 9, line 7, after " epoxy" insert- - after applying said epoxy to the integrated circuit".

In claim 22, line 8, after " epoxy" insert- - after applying said epoxy to the integrated circuit".

***Allowable Subject Matter***

Claims 5-13 and 15-23 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art does not disclose or make obvious curing a thermal epoxy by microwave after the epoxy has been applied to the integrated circuit without heating other components of the integrated circuit package, which prevents warpage.

While the use of microwave curing is known in the art as exhibited by Browne (U.S. 6,014,999) and Hawley et al. (U.S. 5,844,217). In Browne the curing of the epoxy is performed prior to applying it to the integrated circuit. Also, in instances where curing was done after applying it to a chip, the entire chip and epoxy would be placed in a microwave chamber as shown in Hawley, but there is no teaching or that would make it obvious that no other component in the integrated circuit package would have a temperature that increases besides that of the epoxy. In contrast to applicant's invention and critical feature to prevent warping (Applic. Spec. 6, Line 23-24) that no other components of the integrated circuit package would be heated.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Response to Arguments***

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Applicant's arguments based on its amendment have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection would have been made absent examiner's amendment in view of Browne et al. (U.S. 6,014,999).

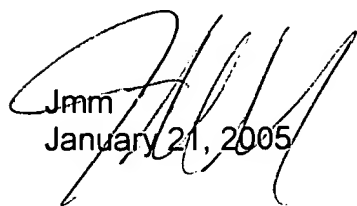
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Jmm  
January 21, 2005